

IN THE CLAIMS:

Please CANCEL claims 28, 33, 34, 38-41, 43, 44, 46 and 48 without prejudice to or disclaimer of the recited subject matter.

Please AMEND claims 51-53, and ADD new claims 56-61, as follows. Note that all the claims currently pending in this application, including those not currently being amended, have been reproduced below for the Examiner's convenience.

1-50. (Canceled)

51. (Currently Amended) An optical system for forming an image of a pattern formed on a reticle, upon on an object to be exposed, said optical system comprising:

an optical ~~lens~~ element being able to be deformed by the weight thereof; and

at least one ~~optical member having an~~ aspherical surface effective to ~~prevent~~ reduce a change in optical performance of said optical system due to deformation of said optical ~~lens~~ element as said optical ~~lens~~ element is provided in said optical system, ~~said at least one optical member being disposed adjacent to said optical lens element,~~

wherein said optical ~~lens~~ element and said at least one ~~optical member~~ aspherical surface are disposed between the reticle and the object to be exposed.

52. (Currently Amended) An optical system according to claim 51, wherein said optical ~~lens~~ element is a diffractive optical element.

53. (Currently Amended) An optical system according to claim 51, wherein said optical lens element has a step-like shape.

54. (Previously Presented) A projection exposure apparatus, comprising:  
an illumination optical system for illuminating a pattern formed on a reticle; and  
a projection optical system for projecting light from the pattern, said projection optical system including an optical system as recited in claim 51.

55. (Previously Presented) A device manufacturing method comprising:  
a process for transferring, through projection exposure, a pattern of a reticle onto  
an object to be exposed by use of a projection exposure apparatus as recited in claim 54.

56. (New) An optical system according to claim 51, wherein said optical system further comprises a first optical member disposed adjacent to said optical element and wherein said at least one aspherical surface is formed on said first optical member.

57. (New) An optical system according to claim 56, wherein one of said at least one aspherical surface is formed on one surface of said first optical member that faces the reticle.

58. (New) An optical system according to claim 56, wherein one of said at least one aspherical surface is formed on one surface of said first optical member that is remote from the reticle.

59. (New) An optical system according to claim 51, wherein said optical system further comprises a first optical member disposed adjacent to said optical element, and a second optical member disposed adjacent to said first optical member, and wherein said at least one aspherical surface is formed on at least one of said first optical member and said second optical member.

60. (New) An optical system according to claim 59, wherein one of said at least one aspherical surface is formed on one surface of said second optical member that is remote from the reticle.

61. (New) An optical system according to claim 51, wherein said optical element has one of a positive optical power and a negative optical power.